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JUN 30 2006
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PATENT
Docket No. 10296US01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

RICHARD W. MOLSTAD

Patent No.: 6,873,487 B2
Issued: Mar. 29, 2005

Serial No.: 09/995,175

For: HYBRID SERVOPOSITIONING SYSTEMS

CERTIFICATE OF CORRECTIONS BRANCH

REQUEST FOR CERTIFICATE OF CORRECTION UNDER 37 C.F.R. 1.322

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Certificate
JUL 05 2006
of Correction

Dear Sir:

It is respectfully requested that a Certificate of Correction be issued in connection with the subject patent in accordance with the provisions of 37 C.F.R. 1.322 and Patent Office Notice dated January 24, 1975.

Because the listed errors first occurred in the printed patent, and thus are not due to Applicant's mistake, no fee is required in connection with this Certificate. For the PTO's convenience, enclosed is the first page of the Amendment filed July 27, 2004, along with a copy of the claims submitted. Applicant has circled the words that were misspelled in the issued patent.

Respectfully submitted,

6/28/6
Date

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DOC Code: COCIN

PTO/SB/44 (04-05)
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UNITED STATES PATENT AND TRADEMARK OFFICE
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PATENT NO. : **6,873,487 B2**

APPLICATION NO. : **09/995,175**

ISSUE DATE : **Mar. 29, 2005**

INVENTOR(S) : **Richard W. Molstad**

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 6,
Line 63, "liberty" should read –linearity–.

Column 7,
Line 22, "trucking" should read –tracking–.

Column 9,
Line 6, "include" should read –includes–.

MAILING ADDRESS OF SENDER (Please do not use customer number

Eric D. Levinson
Imation Corp. Legal Affairs
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St. Paul, MN 55164-0898

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Richard W. Molstad	Confirmation No.	5427
Serial No.:	09/995,175		
Filed:	November 26, 2001		
Examiner:	Kin C. Wong		
Group Art Unit:	2651		
Docket No.:	10296US01		
Title:	HYBRID SERVOPOSITIONING SYSTEMS		

CERTIFICATE UNDER 37 CFR 1.8: I hereby certify that this correspondence is being transmitted by facsimile to the Commissioner for Patents, Alexandria, VA 22313-1450, on 27 July, 2004.

By: Eric Levinson
Name: Eric D. Levinson

AMENDMENT

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action mailed May 5, 2004, the period of response for which runs through August 5, 2004, please amend the application as follows.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 8 of this paper.

Attachment

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently amended): A servopositioning system for a data recording system, comprising in combination:

a) a linear data recording medium, upon at least a portion of which are written at least one amplitude-based servo pattern ~~signal~~, and at least one time-based servo pattern ~~signal~~, wherein the amplitude-based servo pattern includes servo windows and edges of the servo windows define servo tracks of the amplitude-based servo pattern, and wherein the time-based servo pattern includes a first pulse and a second pulse wherein at least a portion of the first pulse defines a different slant angle than a corresponding portion of the second pulse, the slant angles of the first and second pulses being defined relative to a vertical transverse direction across a width of the medium; and

b) circuitry, separately responsive to the amplitude-based servo and time-based servo patterns ~~signals~~, for producing respective position error signals from each servo pattern. ~~signal.~~

Claim 2 (Currently amended): The system of claim 1, in which the amplitude-based servo pattern ~~signal~~ and the time-based servo pattern ~~signal~~ are written to the medium on at least a portion of a common location of the medium.

Claim 3 (Currently amended): The system of claim 2, in which the amplitude-based servo pattern ~~signal~~ and the time-based servo pattern ~~signal~~ are written to the medium in a common location of the medium.

Claim 4 (Currently amended): The system of claim 1, in which the circuitry separates the amplitude-based servo and time-based servo patterns ~~signals~~ from a composite input.

Claim 5 (Currently amended): The system of claim 4, in which the amplitude-based servo and time-based servo patterns ~~signals~~ have respective absolute amplitudes that are controlled to provide linearity to the entire system.

Claim 6 (Currently amended): The system of claim 4, in which the circuitry ~~further comprises~~ performs crosstalk cancellation of the amplitude-based servo and time-based servo patterns ~~signals~~.

Claim 7 (Currently amended): The system of claim 1, in which the amplitude-based servo pattern ~~signal~~ comprises a ~~sine~~ periodic signal ~~wave~~ recorded in an area ~~band~~ surrounding the servo windows and wherein the servo windows comprise erased windows where the periodic signal is erased. ~~, the edges of which form a series of servo track pitches.~~

Claims 8-9 (Canceled)

Claim 10 (Currently amended): The system of claim 1, in which the amplitude-based servo pattern ~~signal~~ and the time-based servo pattern ~~signal~~ are written on different physical locations of the medium.

Claim 11 (Currently amended): The system of claim 10, in which the amplitude-based servo pattern ~~signals have~~ defines a track width approximately equal to a write track width.

Claim 12 (Currently amended): The system of claim 10, in which the time-based servo pattern ~~signals have~~ defines a track width much less than a track pitch of the medium.

Claim 13 (Currently amended): The system of claim 1, further comprising a servo controller having a seeking mode in which the servo controller depends primarily on the time-based servo pattern ~~signals~~.

Claim 14 (Currently amended): The system of claim 13, in which the servo controller depends on position error signals that are produced ~~by~~ based on detection of the amplitude-based servo pattern ~~signals~~ at servo track boundaries.

Issued as Claim 13

Claim 15 (Currently amended): The system of claim 1, further comprising a servo controller having a tracking mode in which a DC portion of position error signals is obtained from the time-based servo pattern ~~signal~~.

Claim 16 (Currently amended): The system of claim 1, further comprising a servo controller having a tracking mode in which a high frequency portion of the position error signals is obtained from the amplitude-based servo pattern ~~signals~~.

Claim 17 (Currently amended): A method ~~of servopositioning for use with a data recording system,~~ comprising:

~~a)~~ writing upon at least a portion of a linear data recording medium at least one amplitude-based servo pattern ~~signal~~, and at least one time-based servo pattern ~~signal~~, wherein the amplitude-based servo pattern includes servo windows and edges of the servo windows define servo tracks of the amplitude-based servo pattern, and wherein the time-based servo pattern includes a first pulse and a second pulse wherein at least a portion of the first pulse defines a different slant angle than a corresponding portion of the second pulse, the slant angles being defined relative to a vertical transverse direction across a width of the medium. ~~; and~~

~~b) producing respective position error signals from each servo signal.~~

Claim 18 (Currently amended): The method of claim 17, further comprising writing the amplitude-based servo ~~signal~~ pattern and the time-based servo ~~signal~~ pattern to at least a portion of a common location of the medium.

Claim 19 (Currently amended): The method of claim 18, further comprising writing the amplitude-based servo ~~signal~~ pattern and the time-based servo ~~signal~~ pattern to a common location of the medium.

Claim 20 (Currently amended): The method of claim 17, further comprising:

separating the amplitude-based servo and time-based servo ~~signals~~ patterns from a composite input; and

producing respective position error signals from each of the servo patterns.

Claim 21 (Currently amended): The method of claim 20, in which the amplitude-based servo and time-based servo ~~signals~~ patterns have respective absolute amplitudes that are controlled to provide linearity to the entire system.

Claim 22 (Currently amended): The method of claim 20, further comprising reducing crosstalk between the amplitude-based servo and time-based servo ~~signals~~ patterns.

Claim 23 (Currently amended): The method of claim 17, further comprising writing the time-based servo ~~signal~~ pattern at the ~~a~~ slant angles relative to the transverse direction of the medium, and ~~the method further comprises~~ placing the amplitude-based servo ~~signal~~ pattern in an azimuth null of the time-based servo ~~signal~~ pattern.

Claim 24 (Currently amended): The method of claim 17, further comprising writing the amplitude-based servo ~~signal~~ pattern and the time-based servo ~~signal~~ pattern on different physical locations of the medium.

Claim 25 (Currently amended): The method of claim 17, further comprising writing the amplitude-based servo ~~signals~~ pattern to have a track width approximately equal to a write track width.

Claim 26 (Currently amended): The method of claim 17, further comprising writing the time-based servo ~~signals~~ pattern to have track width much less than track pitch.

Claim 27 (Currently amended): The method of claim 17, further comprising producing respective position error signals from each of the servo patterns and executing a seeking mode in which a ~~the~~ servo controller depends primarily on the time-based servo ~~signals~~ pattern.

Claim 28 (Currently amended): The method of claim 17, further comprising producing respective position error signals from each of the servo pattems and using a servo controller that depends on position error signals that are produced based on detection of ~~by~~ the amplitude-based servo ~~signals~~ pattern at servo track boundaries.

Claim 29 (Currently amended): The method of claim 17, further comprising producing respective position error signals from each of the servo patterns and using a servo controller that has a tracking mode in which a DC portion of the position error signals is obtained from the time-based servo ~~signal~~ pattern.

Claim 30 (Currently amended): The method of claim 17, further comprising producing respective position error signals from each of the servo patterns and using a servo controller that has a tracking mode in which a high frequency portion of the position error signals is obtained from the amplitude-based servo ~~signals~~ pattern.

Claim 31 (Currently amended): A magnetic data read-while-write head, comprising:

a) two pairs of oppositely arranged time-based servo reading gaps and amplitude-based servo reading gaps that are larger than the time-based servo reading gaps, wherein the amplitude-based reading gaps read from a magnetic medium an amplitude-based servo pattern including servo windows with edges that define servo tracks of the amplitude-based servo pattern, and wherein the time-based servo reading gaps read a time based servo pattern including a first pulse and a second pulse wherein at least a portion of the first pulse defines a different slant angle than a corresponding portion of the second pulse, the slant angles being defined relative to a vertical transverse direction; and

b) between the pairs of oppositely arranged servo reading gaps, matched thin film magnetoresistive data read/write gaps that read data signals recorded between servo bands of the magnetic medium.

Claim 32 (Original): The head of claim 31, in which the amplitude-based servo reading gaps are sized for a servo track width approximately equal to a servo track pitch.

Claim 33 (Original): The head of claim 31, in which the servo reading gaps define gap lines for servo writing.

Claim 34 (Currently amended): A servo writing head, comprising at least one set of time-based servo writing gaps arranged at a slant angle and at least one set of amplitude-based servo writing gaps, configured so that the head can simultaneously write pulses for a time-based servo~~positioning~~ pattern and erase windows for an amplitude-based servo pattern, wherein the amplitude-based servo pattern includes servo windows and edges of the servo windows define servo tracks of the amplitude-based servo pattern, and wherein the time-based servo pattern includes a first pulse and a second pulse, wherein at least a portion of the first pulse defines a different slant angle than a corresponding portion of the second pulse, the slant angles being defined relative to a vertical transverse direction across a width of a medium recorded by the head.

Claim 35 (Original): The head of claim 34, in which there is at least one set of oppositely arranged time-based servo writing gaps so that the time-based servo pulses can be written in either forward or reverse direction.

Issued as Claim 34

Claim 36 (New) A magnetic tape comprising:

an amplitude-based servo pattern including servo windows, wherein edges of the servo windows define servo tracks of the amplitude-based servo pattern; and

a time-based servo pattern, wherein the time-based servo pattern includes a first pulse and a second pulse wherein at least a portion of the first pulse defines a different slant angle than a corresponding portion of the second pulse, the slant angles being defined relative to a vertical transverse direction across a width of the tape.

Claim 37 (New) The magnetic tape of claim 36, wherein the amplitude-based servo pattern and the time-based servo pattern overlap in a common servo band of the tape.

Claim 38 (New) The magnetic tape of claim 36, wherein the amplitude-based servo pattern is recorded in an azimuth null of the time-based servo pattern.